

Application No. Not Yet Assigned
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In Reply to USPTO Correspondence of N/A
Attorney Docket No. 1455-062312

Customer No. 28289

AMENDMENTS TO THE ABSTRACT

After the claims, please insert a page containing the Abstract Of The Disclosure which is attached hereto as a separately typed page.

PASSIVE COOLING AND ARRESTING DEVICE FOR MOLTEN CORE MATERIAL

ABSTRACT OF THE DISCLOSURE

An apparatus for passively cooling and retaining molten core material discharged from a damaged reactor vessel during a severe accident in the nuclear plant including: a molten core material retention tank to retain molten core material; a compressed gas tank storing high-pressure inert gas; a cooling water storage tank being installed higher than the molten core material retention tank; and a mixing means. The molten core material retention tank includes an outer retention vessel having at least one coolant hole, a porous protection vessel formed at an inside of the outer retention vessel, and a gravel layer formed between the outer retention vessel and the porous protection vessel. The apparatus can be installed in a reactor cavity without changing the compartment structure of a containment building, and makes it possible to prevent a steam explosion during the cooling process for the ultrahigh-temperature molten core material and to secure the reliability of the cooling process.